

FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST 6049
RAINBOW VALLEY LANDFILL

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INTRODUCTION

This fact sheet is a companion document to the draft State Waste Discharge Permit No. ST 6049. The Department of Ecology (Department) is proposing to issue this permit, which will allow discharge of wastewater to the City of Raymond Publicly Owned Treatment Works (POTW). This fact sheet explains the nature of the proposed discharge, the Department's decisions on limiting the pollutants in the wastewater, and the regulatory and technical bases for those decisions.

Washington State law (Revised Code of Washington [RCW] 90.48.080 and 90.48.160) requires that a permit be issued before discharge of wastewater to waters of the state is allowed. This statute includes commercial or industrial discharges to sewerage systems operated by municipalities or public entities which discharge into public waters of the state. Regulations adopted by the state include procedures for issuing permits and establish requirements which are to be included in the permit (Chapter 173-216 Washington Administrative Code [WAC]).

This fact sheet and draft permit are available for review by interested persons as described in Appendix A—Public Involvement Information.

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Changes to the permit will be addressed in Appendix D—Response to Comments.

GENERAL INFORMATION	
Applicant	Rainbow Valley Landfill, Inc.
Facility Name and Address	Rainbow Valley Landfill, Inc. HWY 105 Raymond, WA 98577
Type of Facility:	Municipal and Industrial Landfill (closed)
Facility Discharge Location	Latitude: 46° 42' 55" N Longitude: 123° 49' 54" W.
Treatment Plant Receiving Discharge	City of Raymond Wastewater Treatment Plant
Contact at Facility	Larry Bale 360-942-7259
Responsible Official	Larry Bale, President 114 Airport Road Raymond, WA 98577

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

Rainbow Valley Landfill is a closed landfill located about five miles west of the city of Raymond, to the north side of State Highway 105 in Pacific County, Washington. It is owned and operated by the Rainbow Valley Landfill, Inc. Larry Bale is the operator. The site of the landfill is quite remote and is located in an area of Pacific County in which the primary activities are logging and farming. There are no nearby residences.

The actual size of the footprint on which solid waste is placed is approximately five to six acres and the landfill contains 300,000 tons of waste, according to Larry Bale. Willapa Bay and the mouth of the Willapa River are south from the landfill. Fleece Creek is located east of the site and flows from north to south into Willapa Bay. The mouth of Fleece Creek forms a marsh area located southeast of the landfill. Some tidal influence is observed in this marsh area. A tide gate, located at Highway 105, was designed to partially restrict the tidal influence north of the highway.

This facility is not a significant industrial user and is not subject to categorical pretreatment standards.

HISTORY

The Permittee began operation in 1980. It accepted municipal solid waste (both residential and commercial) generated throughout Pacific County as well as waste from several communities in northwestern Oregon. A very small percentage of the waste stream originated in Wahkiakum County. Woodwaste in small volumes was also disposed of at the landfill. No industrial waste was handled at the site. In 1991, the landfill was closed. The facility still functions as a solid waste collection and transfer site.

INDUSTRIAL PROCESSES

The landfill closed in 1991 and has not landfilled solid waste since. The site now functions as a solid waste transfer station.

The landfill is located over a thick deposit of very low permeability clay. It does not have a bottom liner. Landfill leachate is continually collected. The leachate collection system consists of a deep leachate collection trench and extraction well located on the south side of the landfill. There is no bottom leachate collection system. The leachate collection trench ranges from 8 to 26-feet deep with a 4-inch diameter perforated collection pipe. The trench is backfilled with 4-feet of washed rock and 3-feet of gravel. Leachate is pumped from the well to a 10,000 gallon aboveground storage tank and then into tanker trucks for disposal at the POTW.

A leachate blanket drain is located in the cover on the south side of the landfill and connects to the deep trench. The leachate blanket drain consists of a drainage layer between the low permeability soil liner and the underlying foundation material. The drainage layer consists of 12 inches of granular drainage material overlying a geotextile/geonet system.

An interim leachate collection trench, located at the toe of the north face of the landfill, intercepts leachate seeps. The trench is 6- to 8-feet deep and 60-feet long with a 4-inch perforated pipe connected to a corrugated metal pipe sump structure. Leachate is pumped from this system to an aboveground storage tank. Tanker trucks transport the leachate from the tank to the POTW.

There are three holding tanks on the south side of the landfill. Each has 10,000 gallons capacity. Larry Bale estimates that another 30,000 gallons can be stored in the leachate collection system outside the tanks.

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TREATMENT PROCESSES

The leachate is not treated at the landfill. It is transported from the closed landfill via tanker trucks to the City of Raymond Wastewater Treatment Plant for treatment.

PERMIT STATUS

The current permit for this facility was issued on September 5, 2002. This permit was a reauthorization, virtually identical to the previous permit issued July 28, 1995 and modified March 19, 1998.

An application for permit renewal was submitted to the Department on February 1, 2005, and accepted by the Department on May 18, 2005.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received an inspection on October 25, 2005. A compliance inspection with sampling was conducted on November 17, 2005.

During the history of the previous permit, the Permittee has not remained in compliance based on Discharge Monitoring Reports (DMRs) and other reports submitted to the Department and inspections conducted by the Department.

Compliance History: Rainbow Valley Landfill September 2001 to April 2006

Parameter	Date	Reported	Limit
DMRs Submitted Late	3 rd & 4 th Quarters '02	After 15 th	15 th Day of Month
DMRs Submitted Late	1 st & 4 th Quarters '03	After 15 th	15 th Day of Month
Flow	3 rd Quarter '03	60,000 gpd	50,000 gpd
DMRs Submitted Late	1 st , 2 nd , & 3 rd Quarters '04	After 15 th	15 th Day of Month
pH	1 st Quarter '04	Minimum	5.5-8.5
Sampling Not Conducted	3 rd Quarter '05	Sampling conducted after quarter ended	Sampling to be conducted every quarter
DMR Submitted Late	3 rd Quarter '05	After 15 th	15 th Day of Month
pH	4 th Quarter '05	4.4	5.5-8.5
Prohibited Discharge	3 rd Quarter '05	Leaking discharge pipe on transport truck	All leachate must be treated at Raymond POTW.

WASTEWATER CHARACTERIZATION

The concentration of pollutants in the discharge was reported in the permit application and in discharge monitoring reports. The proposed wastewater discharge is characterized for the following parameters, from quarterly sampling reports submitted during the 2002-2006 permit cycle:

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Parameter	Concentration: min, max, avg. (mg/L)	Loading: max., avg.(lbs/day)
Flow, gallons/day	Range: 0 - 40,000 gpd	N/A
Ammonia-N	7, 32, 21	10.6, 7 (@40,000 gpd)
pH	Range: 4.4 – 7.2	N/A
TSS	19, 110, 54	37, 18 (@40,000 gpd)
BOD	Below detection, 6.4, 4.2	2.1, 1.4 (@40,000 gpd)

A priority pollutant scan was run on effluent collected from the November 17, 2005, inspection. No parameters of significant concern were found. Copper, nickel, lead, and selenium were detected. Also, several semi-volatile organic compounds were detected, including polynuclear aromatic hydrocarbons. The 2005 priority pollutant scan concentrations were generally lower than the results listed in the 1995 fact sheet.

For conventional parameters, this wastewater appears to be generally quite weak in organic strength, with moderate TSS and ammonia. Ammonia concentration and loading might be the most significant pollutant for the city of Raymond treatment plant.

PROPOSED PERMIT LIMITATIONS

State regulations require that limitations set forth in a waste discharge permit must be based on the technology available to treat the pollutants (technology-based) or be based on the effects of the pollutants to the POTW (local limits). Wastewater must be treated using all known, available, and reasonable treatment (AKART) and not interfere with the operation of the POTW.

The more stringent of the local limits-based or technology-based limits are applied to each of the parameters of concern. Each of these types of limits is described in more detail below.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

All waste discharge permits issued by the Department must specify conditions requiring available and reasonable methods of prevention, control, and treatment of discharges to waters of the state (WAC 173-216-110). Existing federal categorical limitations for this facility are found under 40 CFR Part 403: General Pretreatment Regulations for Existing and New Sources of Pollution:

Parameter	Minimum	Maximum
pH	5.0	N/A
Temperature at the POTW	N/A	104 degrees F.

EFFLUENT LIMITATIONS BASED ON LOCAL LIMITS

In order to protect the city of Raymond Wastewater Treatment Plant from pass-through, interference, concentrations of toxic chemicals that would impair beneficial or designated uses of sludge, or potentially hazardous exposure levels, limitations for certain parameters are necessary. These limitations are based on local limits established by the city of Raymond and codified in ordinance. Applicable limits for this discharge include the following:

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City of Raymond Local Limits:

Parameter	Effluent Limitations
Temperature	150 degrees F.
Oil and Grease	100 mg/L
pH	5.5--8.5 standard units
BOD	300 mg/L

COMPARISON OF LIMITATIONS WITH THE PERMIT ISSUED SEPTEMBER 5, 2002

Current & Proposed Effluent Limitations		
Parameter	Avg. Monthly	Max. Daily
TSS	N/A	300 mg/L
Oil & Grease	N/A	100 mg/L
pH	N/A	5.5-8.5
BOD	N/A	300 mg/L
Flow	40,000 gpd	50,000 gpd

Existing limits will be retained. These limits are the most stringent and appear to be protective of the POTW.

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, and that effluent limitations are being achieved (WAC 173-216-110).

The monitoring schedule is detailed in the proposed permit under Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

Monitoring frequency is being retained. This frequency, once per quarter, is very minimal. The leachate has sufficient quantity and loading of pollutants of concern to justify this level of monitoring. The Raymond POTW must be able to reliably monitor and assess the hydraulic and pollutant loadings. To help this characterization, a priority pollutant scan will be required to be submitted with the next permit renewal application.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-216-110 and 40 CFR 403.12 (e),(g), and (h)).

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OPERATIONS AND MAINTENANCE

The proposed permit contains condition S.4. as authorized under Chapter 173-240-150 WAC and Chapter 173-216-110 WAC. It is included to ensure proper operation and regular maintenance of equipment to ensure proper transport of leachate to the POTW. The proposed permit requires submission of an O&M manual for the leachate collection, transfer, and transport system.

PROHIBITED DISCHARGES

Certain pollutants are prohibited from being discharged to the POTW. These include substances which cause pass-through or interference, pollutants which may cause damage to the POTW or harm to the POTW workers (Chapter 173-216 WAC) and the discharge of designated dangerous wastes not authorized by this permit (Chapter 173-303 WAC).

DILUTION PROHIBITED

The Permittee is prohibited from diluting its effluent as a partial or complete substitute for adequate treatment to achieve compliance with permit limitations.

GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to POTW permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Conditions G7 relates to permit renewal and transfer. Condition G8 requires the Permittee to control production or wastewater discharge in order to maintain compliance with the permit. Condition G9 prohibits the reintroduction of removed pollutants into the effluent stream for discharge. Condition G10 requires the payment of permit fees. Condition G11 describes the penalties for violating permit conditions.

PUBLIC NOTIFICATION OF NONCOMPLIANCE

A list of all industrial users which were in significant noncompliance with Pretreatment Standards or Requirements during any of the previous four quarters may be annually published by the Department in a local newspaper. Accordingly, the Permittee is apprised that noncompliance with this permit may result in publication of the noncompliance.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics. The Department proposes that the permit be issued for 5 years.

REFERENCES FOR TEXT AND APPENDICES

Washington State Department of Ecology.

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Laws and Regulations(<http://www.ecy.wa.gov/laws-rules/index.html>)

Permit and Wastewater Related Information

(<http://www.ecy.wa.gov/programs/wq/wastewater/index.html>)

APPENDICES

APPENDIX A—PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on June 22, 2005, and June 29, 2005, in the *Chinook Observer* to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department will publish a Public Notice of Draft (PNOD) on (date) in (name of publication) to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Industrial Unit Permit Coordinator
Department of Ecology
Southwest Regional Office
PO Box 47775
Olympia, WA 98504-7775

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-216-100). Public notice regarding any hearing will be circulated at least 30 days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing.

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within 30 days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (360) 407-6286, or by writing to the address listed above.

This permit was written by Don Reif, Environmental Engineer.

APPENDIX B—GLOSSARY

Ammonia—Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation—The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass—The intentional diversion of waste streams from any portion of the collection or treatment facility.

Categorical Pretreatment Standards—National pretreatment standards specifying quantities or concentrations of pollutants or pollutant properties which may be discharged to a POTW by existing or new industrial users in specific industrial subcategories.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample—A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity—Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring—Uninterrupted, unless otherwise noted in the permit.

Engineering Report—A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Grab Sample—A single sample or measurement taken at a specific time or over a short period of time as is feasible.

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Industrial User—A discharger of wastewater to the sanitary sewer which is not sanitary wastewater or is not equivalent to sanitary wastewater in character.

Industrial Wastewater—Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Interference— A discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal and;

Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), sludge regulations appearing in 40 CFR Part 507, the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Local Limits—Specific prohibitions or limits on pollutants or pollutant parameters developed by a POTW.

Maximum Daily Discharge Limitation—The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Pass-through— A discharge which exits the POTW into waters of the-State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation), or which is a cause of a violation of State water quality standards.

pH—The pH of a liquid measures its acidity or alkalinity. A pH of 7.0 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Potential Significant Industrial User--A potential significant industrial user is defined as an Industrial User which does not meet the criteria for a Significant Industrial User, but which discharges wastewater meeting one or more of the following criteria:

- a. Exceeds 0.5 percent of treatment plant design capacity criteria and discharges <25,000 gallons per day or;
- b. Is a member of a group of similar industrial users which, taken together, have the potential to cause pass through or interference at the POTW (e.g. facilities which develop photographic film or paper, and car washes).

The Department may determine that a discharger initially classified as a potential significant industrial user should be managed as a significant industrial user.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Significant Industrial User (SIU)--

- 1) All industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N and;
- 2) Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blow-down wastewater); contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority* on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

Upon finding that the industrial user meeting the criteria in paragraph 2, above, has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the Control Authority* may at any time, on its own initiative or in response to a petition received from an industrial user or POTW, and in accordance with 40 CFR 403.8(f)(6), determine that such industrial user is not a significant industrial user.

*The term "Control Authority" refers to the Washington State Department of Ecology in the case of non-delegated POTWs or to the POTW in the case of delegated POTWs.

Slug Discharge—Any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge to the POTW. This may include any pollutant released at a flow rate which may cause interference with the POTW.

State Waters—Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater—That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit—A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Coliform Bacteria—A microbiological test which detects and enumerates the total coliform group of bacteria in water samples.

Total Dissolved Solids—That portion of total solids in water or wastewater that passes through a specific filter.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Water Quality-based Effluent Limit—A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX D—RESPONSE TO COMMENTS